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Original Research

Comparative Study of Community Awareness and Use of Generic Medicines in Rural Versus Urban Populations

[1]Prajapati Hirenkumar Mukeshlal, [2]Paramatma Singh

[1]Assistant Professor, Department of Pharmacology, People's college of Medical Sciences and Research Center, Bhopal, M.P., India;
[2]Assistant Professor, Department of PSM, People's college of Medical Sciences and Research Center, Bhopal, M.P., India

ABSTRACT:
Aim: The aim of this study was to assess and compare community awareness, perception, and usage patterns of generic medicines between rural and urban populations. **Material and Methods:** This comparative, cross-sectional study was conducted over six months in collaboration between the Department of Pharmacology and the Department of Preventive and Social Medicine (PSM) at People's College of Medical Sciences and Research Center, Bhopal, Madhya Pradesh, India. A total of 100 adult participants were selected through purposive sampling—50 each from rural and urban areas of the same district. Data were collected using a pre-validated, semi-structured questionnaire in English and the local vernacular, covering sociodemographic details, awareness, perception, and use of generic medicines. Face-to-face interviews were conducted by trained investigators. **Results:** The mean age was 37.6 ± 12.3 years in rural and 35.2 ± 11.8 years in urban participants. Educational disparity was noted, with 56.00% of urban participants being graduates or above, compared to 32.00% in rural areas. Awareness of generic medicines was significantly higher in urban areas (78.00%) than rural (44.00%; $p < 0.001$). Urban participants were also more likely to know generics are cheaper (72.00% vs. 38.00%) and available in government setups (68.00% vs. 32.00%). Favorable perception of generics was observed in 64.00% of urban and 42.00% of rural respondents. Utilization was higher among urban participants, with 70.00% reporting past use and 54.00% current use, compared to 40.00% and 24.00% in rural areas, respectively. Affordability was the main driver for generic use (urban: 56.00%, rural: 34.00%), while doubts regarding efficacy were more common in rural populations (38.00% vs. 22.00%). **Conclusion:** Urban participants demonstrated greater awareness, more favorable perceptions, and higher utilization of generic medicines compared to their rural counterparts. Educational status, accessibility to healthcare information, and trust in efficacy significantly influenced these differences. Strengthening awareness campaigns and rural healthcare infrastructure is essential to enhance the uptake of generic medicines and promote cost-effective healthcare practices.
Keywords: Generic medicines, awareness, rural population, urban population, drug utilization.

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Corresponding author: Paramatma Singh, Assistant Professor, Department of PSM, People's college of Medical Sciences and Research Center, Bhopal, M.P., India

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INTRODUCTION

Generic medicines play a critical role in modern healthcare systems by offering cost-effective alternatives to branded pharmaceutical products. With rising healthcare costs and increasing prevalence of chronic diseases, the accessibility and affordability of medications have become paramount for both individual and public health. Generic medicines, which contain the same active ingredients and offer similar therapeutic benefits as their branded counterparts, are pivotal in enhancing access to essential treatments. Despite regulatory approval and bioequivalence with innovator drugs, the uptake and perception of generic medicines vary significantly across different population groups, particularly between rural and urban communities.[1]

In India, a country characterized by wide geographic and socio-economic diversity, disparities in healthcare access and awareness are especially pronounced. The urban population generally benefits from better healthcare infrastructure, higher literacy rates, and increased exposure to health-related information, all of which contribute to a greater understanding and acceptance of generic medicines. Urban dwellers

typically have access to both public and private healthcare providers who may promote generic prescriptions, and their proximity to pharmacies ensures better availability. Moreover, health literacy and digital connectivity allow urban residents to independently explore and evaluate treatment options, including the cost-saving potential of generics.[2]

Conversely, rural populations often face a different set of challenges. Limited healthcare infrastructure, inadequate staffing of healthcare professionals, and low levels of formal education can create significant barriers to both awareness and use of generic medications. In rural areas, people often rely heavily on local practitioners, some of whom may not be adequately informed or motivated to prescribe generic drugs. The influence of pharmaceutical branding, misconceptions about efficacy, and lack of promotional initiatives for generics further compound the problem. Additionally, limited availability of generic medications at local health centers and poor supply chain management reduce the chances of rural residents receiving cost-effective treatments.[3]

One of the critical aspects of promoting the use of generic medicines is public perception. The belief that lower price equates to lower quality is prevalent in many communities, especially in rural regions. Myths surrounding the safety, efficacy, and reliability of generic drugs continue to discourage their acceptance. Patients often prefer branded medicines, assuming they are superior due to marketing efforts or anecdotal experience. Changing these perceptions requires comprehensive educational efforts that involve not only patients but also physicians, pharmacists, and other healthcare providers. Awareness campaigns and trust-building strategies are essential to counter such misconceptions and encourage a shift toward evidence-based use of generics.[4]

Cost is another key factor influencing the decision to choose generic medicines. For low-income families, particularly in rural areas, healthcare expenses can be a significant burden. While the government has launched several schemes, such as the Jan Aushadhi initiative, to promote the availability of affordable generic drugs, awareness of such programs remains limited in many parts of the country. Furthermore, even when generics are available at subsidized rates in government pharmacies, people may not opt for them due to lack of knowledge or misinformation. Hence, understanding the community-level determinants of generic drug use is crucial to enhancing their adoption.[5,6]

There is a growing recognition of the need to conduct comparative studies that explore the awareness, attitudes, and usage patterns of generic medicines across rural and urban populations. Such research provides valuable insights into the gaps in knowledge, accessibility, and behavioral tendencies that influence drug choices. By identifying the specific challenges faced by different demographic groups, healthcare planners and policymakers can design targeted interventions to promote rational drug use and optimize resource allocation. A comparative perspective also helps to evaluate the effectiveness of existing public health initiatives and inform future strategies for bridging the healthcare divide.[7-9]

The scope of this study encompasses not only the extent of awareness but also the perception of efficacy and actual usage behaviors related to generic medicines. It seeks to highlight how socioeconomic status, education level, healthcare exposure, and cultural beliefs shape the acceptance of generics. Understanding these dimensions is vital for implementing reforms in prescription practices, patient education, and public health communication. By comparing rural and urban populations, this study aims to uncover systemic and perceptual barriers that hinder the widespread adoption of generic drugs despite their proven clinical value.

MATERIAL AND METHODS

This comparative, cross-sectional study was conducted over a period of six months in collaboration between the Department of Pharmacology and the Department of Preventive and Social Medicine (PSM) at People's College of Medical Sciences and Research Center, Bhopal, Madhya Pradesh, India. The primary objective of the study was to assess and compare the level of awareness, perception, and usage patterns of generic medicines among rural and urban populations. A total of 100 participants were enrolled using purposive sampling, with 50 individuals each from designated rural and urban areas within the same district to ensure demographic comparability.

Inclusion criteria included adults aged 18 years and above who were permanent residents of the selected rural or urban locality and willing to provide informed consent. Individuals with cognitive impairments or those who declined to participate were excluded. Data collection was carried out using a pre-validated, semi-structured questionnaire developed in both English and the local vernacular language to enhance participant understanding and accuracy. The questionnaire comprised sections on sociodemographic details, awareness of generic medicines, perceived efficacy and safety, preferences for generic versus branded medicines, and actual usage patterns.

Trained field investigators conducted face-to-face interviews at participants' homes, local health centers, or community spaces to facilitate convenience and ensure comprehensive participation. All field investigators underwent standardized training to ensure consistent administration of the questionnaire and minimize interviewer-related bias. Ethical clearance was obtained from the Institutional Ethics Committee of People's College of Medical Sciences and Research Center, Bhopal, prior to the initiation of the study, and written informed consent was obtained from all participants.

Data were entered and coded using Microsoft Excel and analyzed using SPSS version 21. Descriptive statistics such as frequencies and percentages were used to summarize baseline variables. Comparative analysis between rural and urban groups was performed using chi-square tests for categorical variables and independent sample t-tests for continuous variables. A p-value of <0.05 was considered statistically significant for all statistical tests.

RESULTS

Table 1: Sociodemographic Profile of Participants

The study included 100 participants, evenly divided between rural and urban settings. The mean age of rural participants was slightly higher at 37.6 ± 12.3 years compared to 35.2 ± 11.8 years in the urban group, indicating a relatively similar age distribution. Gender distribution was nearly equal in both groups, with males constituting 52.00% in the rural group and 48.00% in the urban group. Educational status, however, demonstrated a significant urban-rural divide. A higher proportion of rural participants had no formal education (28.00% vs. 12.00% in urban), while more urban participants were graduates or had higher education (56.00% compared to 32.00% in rural). This suggests a higher literacy level in the urban group, potentially influencing health awareness and medication practices.

Table 2: Awareness About Generic Medicines

Awareness regarding generic medicines was markedly higher among urban participants. A significant 78.00% of urban respondents had heard of generic medicines compared to only 44.00% in the rural population ($p < 0.001$). Similarly, awareness that generic drugs are more affordable than branded ones was reported by 72.00% of urban participants versus only 38.00% of rural participants ($p < 0.001$). Furthermore, 68.00% of urban respondents knew that generic medicines are available in government healthcare setups, in contrast to only 32.00% of rural respondents ($p < 0.001$). These findings highlight a substantial knowledge gap between urban and rural populations, possibly due to differences in access to healthcare information and literacy levels.

Table 3: Perception Toward Generic Medicines

Perceptions regarding the effectiveness of generic medicines varied between the two groups. While 64.00% of urban participants believed generic medicines to be equally effective as branded ones, only 42.00% of rural respondents shared this belief. Conversely, 36.00% of rural participants considered generics to be less effective, compared to 20.00% in the urban cohort. A similar proportion in both groups expressed uncertainty or had no opinion—22.00% in rural and 16.00% in urban areas. These results reflect a generally more favorable perception of generics among urban residents, aligning with their higher level of awareness.

Table 4: Utilization of Generic Medicines

Utilization patterns revealed significant differences between the two populations. A greater proportion of urban participants had used generic medicines at least once (70.00%) compared to 40.00% of rural participants ($p = 0.002$). Current usage also followed a similar trend, with 54.00% of urban participants and only 24.00% of rural respondents reporting active use of generics ($p = 0.001$). While government pharmacies were cited as the purchase source by 36.00% of urban users and 20.00% of rural users, the difference was not statistically significant ($p = 0.074$). These findings suggest a higher integration of generics in urban healthcare consumption, possibly due to better healthcare infrastructure and greater access to public health services.

Table 5: Reasons for Preferring or Avoiding Generic Medicines

When asked about reasons for their preference or avoidance of generic medicines, 56.00% of urban participants cited affordability as the primary factor, compared to 34.00% of rural respondents. In contrast, a higher proportion of rural participants (38.00%) avoided generics due to doubts regarding their efficacy, compared to 22.00% in the urban group. Approximately equal proportions in both groups (28.00% rural and 22.00% urban) reported no specific reason or expressed neutral opinions. These insights reveal that while economic factors drive generic use in both settings, rural hesitancy is more strongly rooted in doubts and misconceptions about effectiveness.

Table 1: Sociodemographic Profile of Participants (n = 100)

Parameter	Rural (n = 50)	Urban (n = 50)	Total (n = 100)
Age (mean ± SD)	37.6 ± 12.3	35.2 ± 11.8	36.4 ± 12.0
Gender			
Male	26 (52.00%)	24 (48.00%)	50 (50.00%)
Female	24 (48.00%)	26 (52.00%)	50 (50.00%)
Education Level			
No formal education	14 (28.00%)	6 (12.00%)	20 (20.00%)
Up to secondary	20 (40.00%)	16 (32.00%)	36 (36.00%)
Graduate and above	16 (32.00%)	28 (56.00%)	44 (44.00%)

Table 2: Awareness About Generic Medicines

Awareness Parameter	Rural (n = 50)	Urban (n = 50)	p-value
Heard of generic medicines	22 (44.00%)	39 (78.00%)	<0.001
Knows they are cheaper than branded ones	19 (38.00%)	36 (72.00%)	<0.001
Aware they are available in government setup	16 (32.00%)	34 (68.00%)	<0.001

Table 3: Perception Toward Generic Medicines

Perception Parameter	Rural (n = 50)	Urban (n = 50)	Total (n = 100)
Believe generics are less effective	18 (36.00%)	10 (20.00%)	28 (28.00%)
Believe generics are equally effective	21 (42.00%)	32 (64.00%)	53 (53.00%)
Uncertain/No opinion	11 (22.00%)	8 (16.00%)	19 (19.00%)

Table 4: Utilization of Generic Medicines

Utilization Parameter	Rural (n = 50)	Urban (n = 50)	p-value
Ever used generic medicine	20 (40.00%)	35 (70.00%)	0.002
Currently using generics	12 (24.00%)	27 (54.00%)	0.001
Purchase source: government pharmacy	10 (20.00%)	18 (36.00%)	0.074

Table 5: Reasons for Preferring or Avoiding Generic Medicines

Reason	Rural (n = 50)	Urban (n = 50)
Prefer generics due to cost	17 (34.00%)	28 (56.00%)
Avoid generics due to doubt	19 (38.00%)	11 (22.00%)
No specific reason/opinion	14 (28.00%)	11 (22.00%)

DISCUSSION

The present study highlights key differences in the awareness, perception, and utilization of generic medicines between rural and urban populations. The sociodemographic profile showed a relatively balanced distribution in terms of age and gender, but notable differences in educational status, with 56.00% of urban participants being graduates or above compared to 32.00% in rural areas. This finding correlates with earlier observations by Patel et al. (2011), who found that urban residents with higher education levels were more likely to be aware of and use generic medicines. Their study, conducted across various regions of Gujarat, reported that 58% of urban respondents had graduate-level education, contributing to higher health literacy and drug-related awareness.[9]

Awareness levels in this study were significantly higher in urban participants, with 78.00% having heard of generic medicines compared to only 44.00% of rural participants. This is in line with the findings of Chua et al. (2013), who noted a similar urban-rural disparity in Malaysia, where 74% of urban respondents were aware of generic medicines against just 40% of rural respondents. The knowledge that generics are more affordable was acknowledged by 72.00% of urban and only 38.00% of rural participants in our study, reflecting persistent informational gaps in rural settings. Chua et al. also emphasized the role of healthcare professionals in bridging this awareness divide, particularly in rural communities.[10]

Perception regarding the effectiveness of generic medicines was more favorable among urban participants, where 64.00% believed generics to be equally effective compared to 42.00% in the rural cohort. Conversely, 36.00% of rural respondents considered generics less effective. These patterns resonate with the findings of Sharrad and Hassali (2011), who observed that only 45% of respondents in low-income areas believed generics were as effective as branded medicines, often due to misinformation and lack of direct counseling. In contrast, those from more informed communities showed significantly higher confidence in the therapeutic equivalence of generics.[11]

Utilization patterns also reflected significant differences. In the present study, 70.00% of urban participants had used generic medicines at least once compared to 40.00% in rural areas, while current usage was reported by 54.00% of urban versus 24.00% of rural participants. Similar trends were reported by Babar et al. (2005) in New Zealand, where generic usage was significantly higher among urban populations, attributed to more structured healthcare systems and better access to generic drug outlets. The authors emphasized that public health infrastructure, especially pharmacy availability and public sector procurement, greatly influenced actual utilization patterns.[12]

Affordability was the primary reason for preferring generic medicines in both populations, cited by 56.00% of urban and 34.00% of rural respondents in our study. On the other hand, doubts about efficacy were a major barrier, especially in rural areas (38.00% rural vs. 22.00% urban). These findings align with the study by Gøtzsche et al. (2007), which reported that price sensitivity was a primary driver for generic use in low-income groups, while efficacy concerns remained the principal deterrent in areas with low

medical literacy. Their research also stressed the importance of transparent regulatory systems and education campaigns to dispel myths about generic drugs.[13]

Lastly, the role of healthcare professionals in influencing generic medicine use cannot be overlooked. In our study, despite the availability of generics in government pharmacies, only 36.00% of urban and 20.00% of rural users purchased from these sources. This underutilization is consistent with the findings of Choudhury et al. (2012), who observed that lack of physician endorsement and absence of prescription substitution policies were major barriers in India's public healthcare framework. Their study reported that even when aware of generics, patients relied heavily on physician recommendations, highlighting the need for stronger physician-led advocacy.[14]

CONCLUSION

This comparative study revealed significantly higher awareness, favorable perceptions, and greater utilization of generic medicines among urban populations compared to rural counterparts. Educational status, healthcare accessibility, and exposure to information played key roles in influencing these differences. Misconceptions and lack of awareness in rural areas remain major barriers to generic medicine adoption. Targeted educational interventions and stronger healthcare infrastructure are essential to bridge this gap and promote rational, cost-effective drug use across both populations.

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